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General Concepts for the city of Sudbury official plan

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GENERAL CONCEPTS
OF
THE OFFICIAL PLAN

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GENERAL CONCEPTS
FOR
THE CITY OF SUDBURY OFFICIAL PLAN

THE PLAN'S OBJECTIVE: GIVING ALL PEOPLE GOOD ACCESS TO ALL TYPES OF FACILITIES............ TWO METHODS: BRING FACILITIES TO PEOPLE, OR PEOPLE TO FACILITIES........EACH MEANS A RADICALLY DIFFERENT WAY OF ARRANGING TRANSPORTATION, RESIDENTIAL, OTHER FACILITIES..... THE CONCEPT OF THE CENTRE AS THE DOMINANT POINT OF A RADIAL AND CIRCUMFERNTIAL SYSTEM OF ARTERIES ....

Introduction

In the pages which follow are set forth the concepts of the Official Plan, the road principles, which should be followed if the community is to accomplish this purpose most effectively.

Formerly, cities were built for the protection and enjoyment of a fortunate few - others were left to find what advantages they could in city life and, doubtless, even for these the advantages were considerable. In the present democratic era, however, the only allowable objective is that all men be held to avail themselves of all of the opportunities which the city offers, and, if possible to avoid the more harmful effects of city life. For city planning, which must serve the instinct of the age, this means planning the city in such a way that all people have good access to facilities of all kinds. Here is one of the great technical objectives of contemporary planning and perhaps it will play the same role in giving cities form, which the requirement of military defence, trade and industry have each played at various times in the past.

The Elements of Structure

The objective is to bring together people and the facilities to meet the human and the cultural needs. In working towards this objective there are only two means at hand: people can be transported to facilities, or facilities can be distributed to people. Each method in the extreme produces different kinds of cities. In Figure B, the function of transportation is to overcome total distance between people and facilities. In Figure A, transportation has no function, since total distance is overcome by means of distribution. Actually, neither transportation or distribution can do the whole job because, on the one hand, not all persons are mobile and, on the other hand, not all facilities can be distributed. Persons may be place bound because of age (the young and the old) or because of social role (as women with young children). Some facilities can not be distributed because they are underpinned by natural resources or because, to exist at all, they must be of a physical or economic size that prevents there being multiplied indefinitely. This constraint means the use of both methods for overcoming distance between people and facilities. Part of the distance must be overcome by means of distribution. The remaining distance must be overcome by means of transportation systems. Accordingly, we combine Figures A and B to give a truer picture of urban structure in Figure C.

From the point of view of bringing people and facilities together, urban structure has three major elements: the distributed facilities, the undistributed facilities, and the transportation system. In overcoming distance, the first and third have complimentary roles; more

distributed facilities mean less distance for the resident to travel and less need for transportation capacities. Fewer distributed facilities mean more distances and greater need for transportation capacities. Place bound people and place bound facilitiies set practical limits to both the concentration and distribution of facilities. Figure E is the anatomy of the plan.

Yet one other feature of urban structure effects the amount of distance which the resident must travel, namely, the way the structural components just described are arranged on the ground - the pattern they make.

The obvious effect of the arrangement in Figure C is such movement back and forwards between place of residence and non-distributable facilities. Concentrate such facilities at one point and the total distance to be covered will decrease. It will decrease even further if the concentrated facilities are put at the centre of population Figure D. This fact gives functional meaning to the Central Business District of the City of Sudbury and to the radial form of the Region.

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Urban Form

Limit to both concentration and distribution is set by immobile persons and by facilities which can not be distributed. But people are not equally immobile, nor are facilities fixed or concentrated to the same extent. Mobility varies according to age, sex and income, while the distribution of facilities is a matter of economic land size or of accessibility requirements, hence, the hierarchal tendency of urban structure requiring people to travel different distances to different facilities and the facilities themselves to have different service ranges. Facilities in order to exist at all must be accessible to the entire region and must locate near the centre of the regional population. Facilities which need only to be walking distance of relatively few people distribute themselves throughout the entire local area in close proximity to their clients, in neighbourhood centres. Between these two extremes, there are facilities which serve areas of various sizes located at centres of corresponding importance.

From this discussion, it will be apparent that the form which the plan advocates (Figure F) is based on a respect of certain, underlying social and economic realities. The purpose of aiding this natural human design to function more effectively, and of facilitating its emergence in new areas can be pursued by means of five planning measures:
1. Providing for each age group a set of appropriate facilities.

2. Determining a service area.

3. Establishing for each service area a Centre.

4. Differentiating highways by design and capacity, according to the centres they serve.

5. Facilitating development or hierarchy of communities based on successively wider interests and fostering a progressively wider sense of place. However, it should be noted that there is a potential conflict to be avoided in a system such as the one we are briefly describing which is composed of communities within communities. The land occupied by any particular community (Figure G) is viewed as its home territory to be used for local purpose. For the next larger community, a group subjected to different pressures and with a viewpoint so large as to be impersonal, the same land may represent a resort; the potential right of way for a new by-pass, the ideal site for a high school or shopping centre.

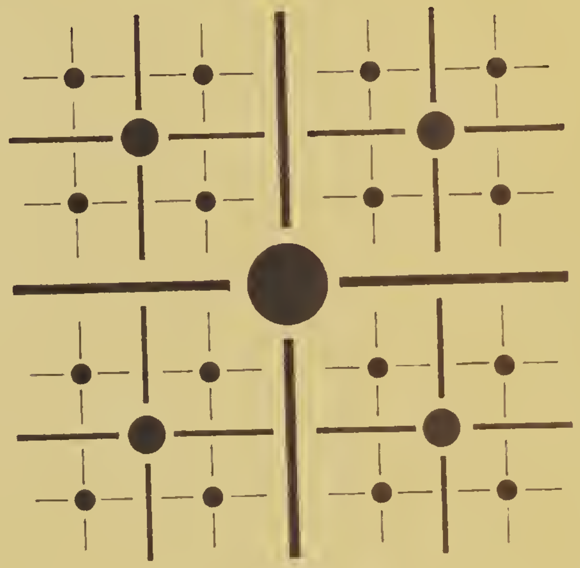

FIGURE F

Where these different viewpoints, produce conflicting demands on the same lands, a technical solution is required in the form of a set of defined land use relationship to permit the working out of both local and regional aims in the same area with as little friction as possible. Of course, possibilities are different in different parts of the city. Reconciling opposing local and regional interests is more difficult near the downtown area, where the great regional paths converge and where regional facilities come to predominate. (Figure H).

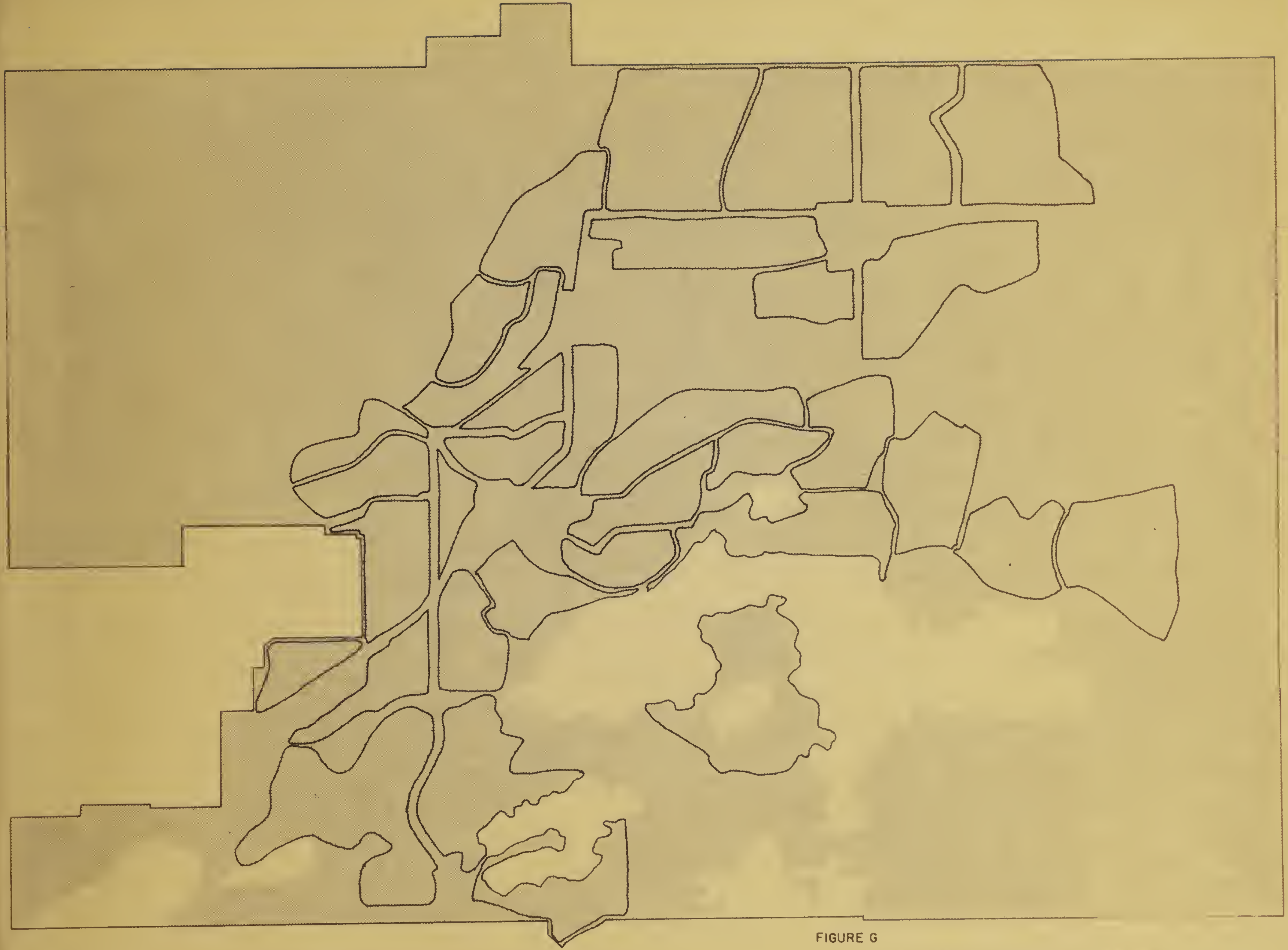

FIGURE G

For each set of facilities a service [illegible]

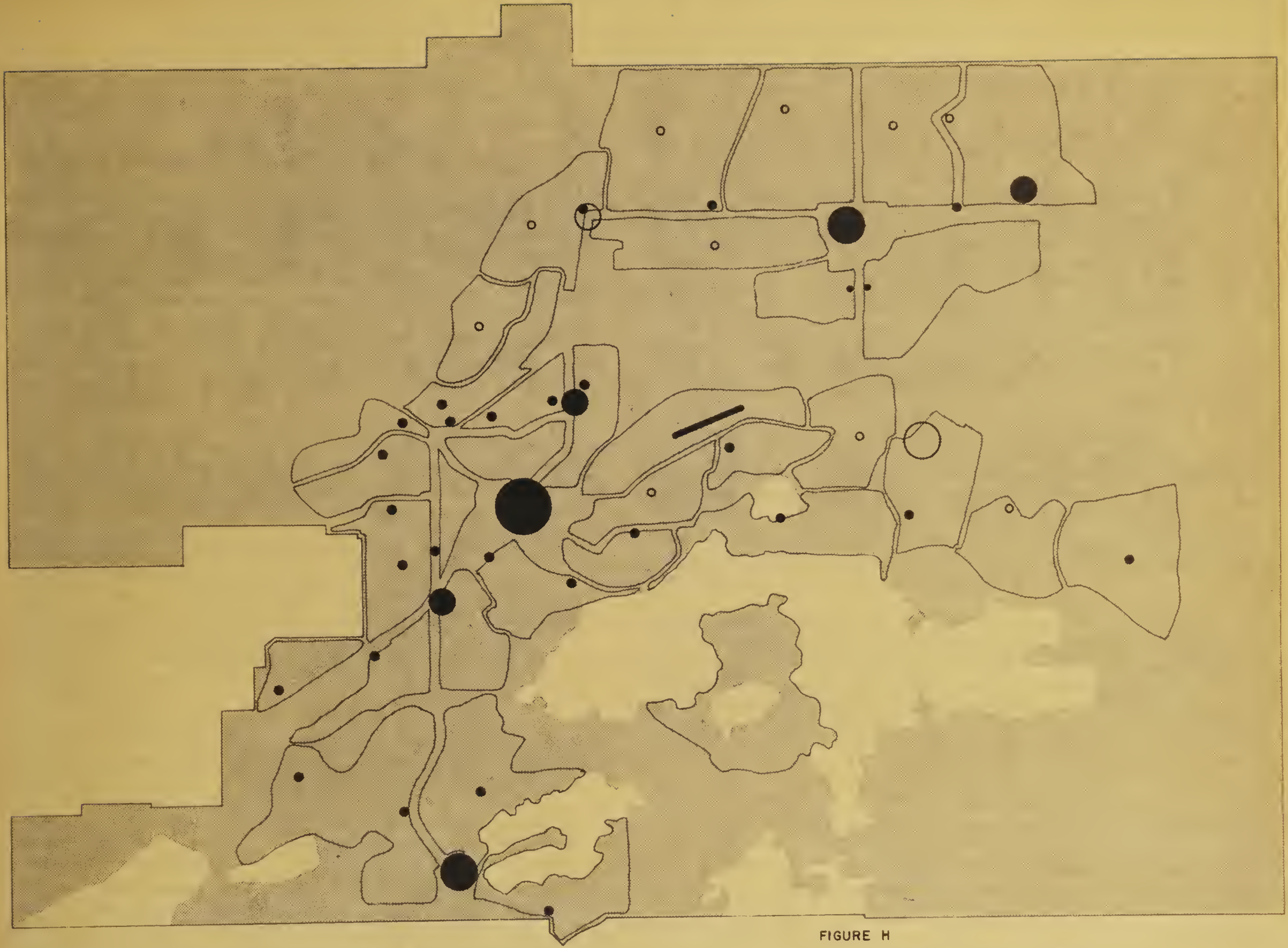

FIGURE H

For each service area a centre.

Densities - its basis in Urban Structure

Density is a key factor in the distribution of facilities and is itself influenced by the structure depicted in the theorectical figure F. Density at any point is mainly a product of two interacting factors: 1. The accessibility which the place has to every other place, and 2. the number of people who need or want that degree of acessibility. If all people in the city had the same access needs and preferences, then all would try and locate at one place. But all people do not have the same locational needs, so every habitable place in the city is occupied.

But the whole city is not evenlly occupied. For although each place is valuable to some people, not all are valuable to the same number of people. The reason for this is that certain places because of their location offer better opportunity for overall access then do others. For example, the Downtown area of Sudbury and some of the major sub-centres, such as New Sudbury Shopping Centre, Plaza 69 in Lockerby offer superior access. Therefore, it is proposed that these places should continue to be more densely occupied than other places. Figure K) The plan makes the best use of certain features of the City's structure in the interests of the residents.

Where, in terms of access, one place is supreme as in Sudbury Region, every other place acquires an access value which is some fraction of the value of the chief place: the amount, depending on howwell it is able to substitute for the chief places. The better it can substitute, the more desirable it becomes as a place of business or residence. Hence, there is greater demand for it. As a rule, as one leaves the centre of a region, ease of access declines and with access, the ability of a place to substitute for the centre. Therefore, a second feature of density policy is to provide for successively lower densities, with distance from the centre of the City and major sub-centres (Figure K).

However, where conditions are favourable, higher densities are allowed, then it is typical for points at that distance from the centre. Conditions are favourable along major transportation roads, or in the vicinity of major thorough-fare interchanges or mass transit stations. However, some times it might not be to the advantage of accessibility to the major centres. Some places, due to bad site conditions, or poor transportation, are required to have lower density than do neighbouring points.

The density policy, which we have been explaining, are summarized in Figure K. A pattern of different degrees of intensity dominated by a high density centre progressing to a low density periphery with upward variation occurring in the vicinity of sub-centres, and downward variation where site conditions are unusual or where particular public or private objectives have repressed or inhibited development.

Thus, density adds a third dimension to the pattern of distributed and non-distributed facilities, and to the hierachy of centres and sub-centres. The plan proposes a density pattern, in which the distribution of population is logically related to the other development proposals of the plan.

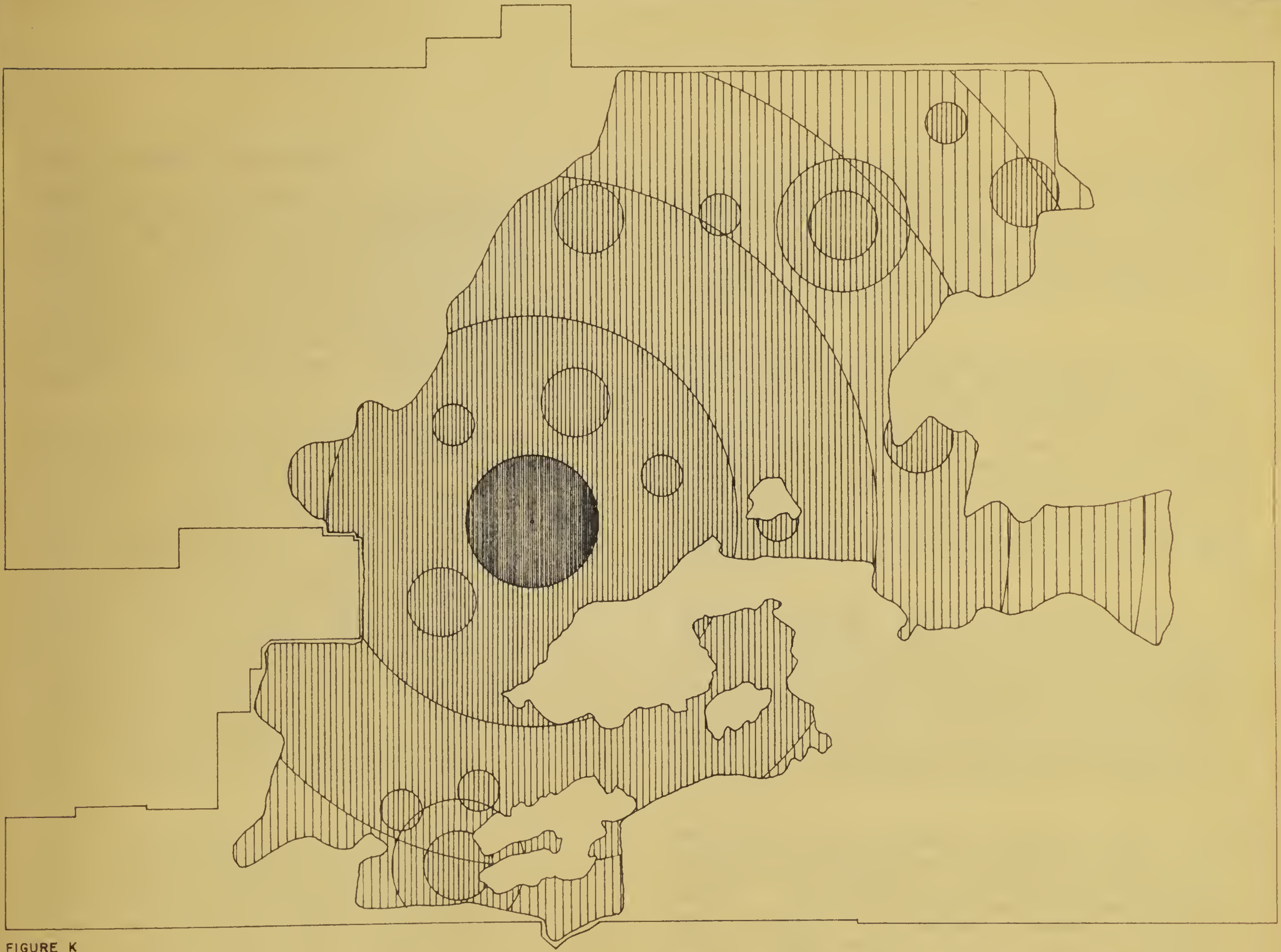

FIGURE K

The basis of density is accessibility — to all facilities in the region as a group as well as to particular facilities. Accessibility is greater at the regional centre and sub-centres and declines with distance from all such access-privileged points, therefore, the density policy proposals of the Plan are based on a recognition of the underlying realities of urban structure and form.

Roads and Their Consequences

Place-bound people and place-bound facilities cause the community to have a stable, spacious structure. In turn, this structure effects the size of the community. Figures L and M are similar to Figures A and B except that patterns have been used to represent the loci of different major activities. A characteristic of Region 2, Figure M is the separation of place-of-play, work and residence at a regional scale. In Region 1, Figure L, separation of activities is local.

Corresponding to these structural differences, there are implied differences in the amount of travelling a resident has to do in the course of a day. In Region 1, Figure L, composed of locally, organized units, you would hardly have to travel at all since it could meet all office daily requirements within a relatively small area. No matter how large such a region might be, it would impose no strain on the time and energy of any of its inhabitants. On the other hand, the size of the type of region, Figure M, is subject to a practical limit determined by the ability of people to reach unique activity centres and represented in this figure by the circumference of the circle. Roads beyond this limit require structural changes in the form of either faster or more far-reaching tramsportation facilities or new regional centres.

These considerations permit us to give to the concept urban growth a different meaning. Roads involve an increase in size and adjustment to size. In nature, these two processes occur at the same time or so close together that they hardly can be distinguised. Cities, however, increase in size first and adjust to size only gradually. As a result, transitional relationships often confuse the features of the old and the new equilibrium. (The Old City of Sudbury and the Suburban Section and the Blezard-Chelmsford Valley). But always emerging in the growth of a city is the perduring structure of the human community at the larger scale.

Urban growth involves the welfare of individuals as well as whole communities. The political community is affected when, as a result of adjustments to size, its boundaries cease to co-incide with the boundaries of the functional community. Figure N illustrates the possibility: a vacuum caused by excessive distance from the established urban centres comes to be served by centres outside the city. The influence of the new centres ranges deep into the service area of the old, causing the reorientation of a considerable number of people.

If the new centres arise within the bounds of the political community, Figure O, old established centres within it may lose their supremacy, but this loss may be offset by the advantages to the political community of retaining its custom and winning of new customers beyond its boundaries. All the centres maykeep their importance by the device of improved transportation to the new growth areas, transportation being, as we have shown, the functional equivalent of distributed facilities.

When growth occurs, population movement ensues, caused by many people seeking points in the new, larger urban structure corresponding to the point they occupied in the old. As a result, some areas develop and others decay, giving rise to problems of economic and social succession which must be treated by means of development and redevelopment.

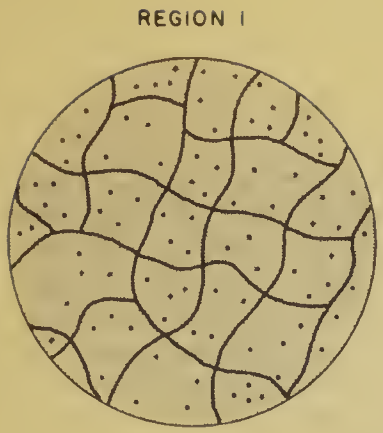

FIGURE L

No "adjustment" is required in the growth of the type of region pictured here. It grows simply by adding identical "cells." Each cell contains all the facilities which its residents need in order to live or to participate in their culture.

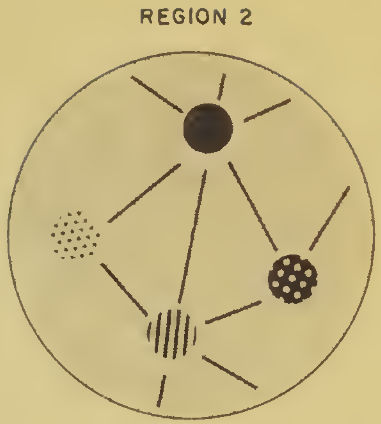

FIGURE M

In this type of region certain kinds of facilities are concentrated at one or a few points. Here growth involves adjustments in the form of new activity centres or new transportation facilities.

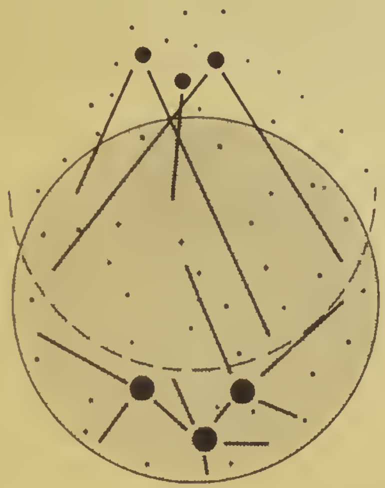

FIGURE N

It makes a difference whether the activity centres which serve new growth develop inside or outside the City. In the situation pictured here, outside centres have cut deep into the service areas of the older City centres.

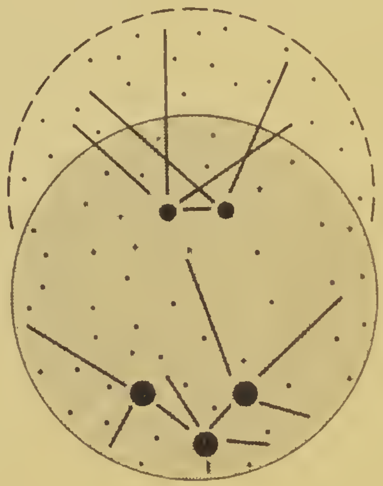

FIGURE O

The situation pictured here is more salutary from the City's point of view. The newer centres extend the City's commercial hegemony over suburban territory.

The basic development issues facing the City derive from these factors of growth and the consequences for Sudbury, the central city of the region. The plan approved in 1961 proposes to meet these issues by a series of major improvements in thoroughfare proposals, by significant readjustments in land use, particularly in the direction of industrial and commercial development and redevelopment by the intensification of activity in the downtown area and a number of subcentres, and by the improvement in quality of homes and their surroundings, and the surroundings of the whole city.

By definition, roads occur in time. But roads, themselves, and even more so the consequences, take place or appear unevenly along a time scale. Public effort directing the adjustment must be sensitive to time. Thus, timing of public development activity adds a fourth dimension to the plan.

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